

file



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,537	04/27/2001	Robert W. Baxter	9266-2	3743
20792	7590	07/17/2006	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			CORRIELUS, JEAN M	
PO BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	
			2162	

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/844,537	<b>Applicant(s)</b> BAXTER ET AL.	
	<b>Examiner</b> Jean M. Corrielus	<b>Art Unit</b> 2162	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to the Appeal Brief filed on April 20, 2006, in which claims 1-33 are presented for further examination.

#### *Reopening of Prosecution After Appeal Brief*

2. In view of the Appeal Brief filed on April 20, 2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

Art Unit: 2162

the invention. Claim 1 recites “storing a command for a controller in a database”; “detecting the stored command in the database”; and “sending the detected command to the controller”. It is unclear as to how one having ordinary skill in the art would detect the stored the command in the database for the controller when the command is specifically stored in database for the controller. There is no need to detect the command for the controller if the command is already pre-stored for the controller in the database. Applicant should duly note that the controller communication system as disclosed in Figure 3 of the instance application comprises a database interface system for facilitating communication between a client system and one or more controllers. Conventionally, the controller communication system used memory to memory to transfer information, which can result in a loss of data should a power failure occurs. In the instance application, the database interface system is configured to preserve the data to be written or read from the controller in case of power failure. Fig.4 of the present application having a memory which holds five or more major categories of application program: logging interface module (LIM); scanning interface module (SIM); events interface module (EIM); command interface module (CIM) and communication driver module (CDM), wherein each of the application program is configured to perform a designated task. The CIM may be configured to monitor the command table for commands to process. When the CIM detects a command in the commands table to process, the CIM verifies the detected command whether it is a valid command for the destination controller then send the command to the destination controller via a communication driver, if the command is determined to be invalid, then the command is reset. There is no use for one having ordinary skill in the art to store the set of commands for a controller in a client computer memory and then detect such a set of commands to send to the

Art Unit: 2162

controller. It is also not clear as to how the stored command is detected and sent. Claim 2 recites “wherein detecting the stored command comprises verifying that the stored command is a valid command for the controller. It is unclear who is actually verify the whether the command is valid for the controller and how such a determination is done.

Claims 3 and 5 recite “wherein sending the retrieved command to the controller comprises sending a write command that is configured to write a first of a first real-time process variable to the controller”. Actually the retrieved command does not comprise sending a write command that is configured to write a first value of a first real-time process variable to the controller; and “updating a current value associated with the first real-time process control variable in a tag table in the database with the first value of the first real-time process control variable read from the controller”. It is not clear how one having ordinary skill in the art would update a current value associated with the first real-time process control. However, one having ordinary skill in the art would update the tag table to include a current value of the real-time process control variable associated with a particular tag (see specification page 12, lines 18-19).

Claim 4 recites “updating a status of the retrieved command sent to the controller in a command table in the database to indicate whether the retrieved command sent to the controller succeeded or failed”. One having ordinary skill in the art would update the command table to indicate whether the read command for the particular tag succeeded or failed if a response received is for a read command retrieved command status information and update the tag table to indicate whether the write command for that particular tag succeeded or failed if a response received is for write command (see specification page 11, lines 10-20), however, the ordinary skilled in the art would not be able to update a status of the retrieved command sent to the

controller in a command table in the database to indicate whether the retrieved command sent to the controller succeeded or failed, as claimed.

Claim 6 recites “providing a tag table in the database that comprises definitions of a plurality of real time process control variables, wherein each of the plurality of real time process control variables is associated with a monitoring frequency and a current values”. It is important to note that the tag table does not include definitions of a plurality of real time process control variable. However, the events module table comprises definitions for one or more events based on values of tags defined in the tag table (see specification page 8, lines 6-8);”periodically sending a read command that is configured to read a value of a real time process control variable for respective ones of the plurality of real time process control variables from the controller based on the respective monitoring frequencies”. Indeed, the read command is not sent periodically to read a value of a real time process control variable. So, the scanned interface module (SIM) determines whether the tag is to be periodically updated through routine monitoring, wherein the SIM periodically constructs read command to be sent to the appropriate controllers to collect the current tag value (see Specification, page 12, lines 6-12).

Claim 10 recites “notification method and stored procedure”. It is unclear as to what the applicant meant by the notification method and stored procedure. Such notification method and stored procedure need to be defined in the claims.

Claims 12-33 are rejected under the same rationale as stated in the rejection above.  
Applicant is advised to amend the claim to solve the 112 problem set forth in the claims.

Claims 3-5 recite the limitation “wherein sending the retrieved command to the controller comprises” in line 1. Claim 10 recites “the notification method and the stored procedure” in line 8. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, specifically, as directed to an abstract idea.

Claims 1-33 in view of **MPEP section 2106 IV.B.2. (b)** define non-statutory processes because they merely manipulate an abstract idea without a claimed limitation to a practical application. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Data structure not claimed as embodied in computer-readable media is descriptive material per SE and is not statutory because they are neither physical nor statutory processes. Structural and functional interrelationship with a general-purpose computer for permitting claimed functions to be realized are not provided in the claims. In contrast, a claimed system should define structural and functional interrelationships between data structures or functional parts and a computer system which permit the data functions to be realized, and is statutory. Thus, the claimed are rejected as being non-statutory. Additionally, the invention, as claimed, is directed to the manipulation of an

abstract idea with no practical application in the technology arts.

The Supreme Court has repeatedly held that abstractions are not patentable. "An idea of itself is not patentable". Rubber-Tip Pencil Co. V. Howard, 20 wall. 498, 07. Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basis tolls of scientific and technological work Gottschalk V. Benson, 175 USPQ 673, 675 (S Ct 1972). It is a common place that laws of nature, physical phenomena, and abstract ideas are not patentable subject matter Parker V. Flook, 197 USPQ 193, 201 (S Ct 1978). A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See In re Wamerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1754, 1759 (Fed. Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600,1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at



Art Unit: 2162

1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Claim 1 represents an abstract idea, which does not tie to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. There is no manipulation of data or any transformation of data from one state to another being performed in the method of communicating with a controller in real time. Actually, no post computer process activity is found in the technological arts. The method of communication with a controller is not a physical transformation. The controller by itself cannot perform any function without being coupled to a processor of a computer system. Assuming the database is a physical hardware or a memory, such controller cannot communicate with memory without coupling in a possessor of a computer system. Thus, no physical transformation is performed, no practical application is found in the claims. The claim 1 provides the use of storing a command for a controller in database, detecting and sending that command to the controller. Such the limitations do not produce any useful, concrete and tangible result. Such reading/writing command in the database as claimed can be done in a piece of paper, where one having ordinary skill in the art would retrieve the stored command in the database and send the retrieved command to the controller.

Art Unit: 2162

Also, the claims do not appear to correspond to a specific machine or manufacture disclosed within the specification and thus encompass any product of the class configured in any manner to perform the underlying process, and are thus rejected as being directed. Claim 1 is not **tangibly embodied** in a manner so as to **be executable** as the only hardware is in an intended use statement. Therefore, claim 1 is directed to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Applicant is advised to amend the claims to show the series of steps as recited in claim 1 produce a tangible result **being executed** by a general-purpose computer in order to correct the above indicated deficiencies.

The dependent claims 2-11 are rejected for fully incorporating the errors of their respective base claims by dependency.

Claims 12-22 are rejected under the same rationale as disclosed in the rejection above.

Claim 23 is directed to the manipulation of an abstract idea with no practical application in the technology producing a concrete, useful, and tangible result nor provide a physical transformation in the technology art to form the basis of statutory subject matter under 35 U.S.C. 101. Claim 23 is directed to a computer readable program medium having a computer readable program code embodied therein. Such computer readable program medium is not coupled to a computer system to execute the computer readable program code. However, the invention, as claimed, is directed to the manipulation of an abstract idea with no practical application in the

Art Unit: 2162

technology arts, there is no physical transformation performed in the claim nor providing a concrete, useful, and tangible result. These limitations do not produce any useful, concrete and tangible result. Applicant is advised to amend the claims to show the series of steps as recited in claim 23 produce a tangible result **being executed** by a general-purpose computer in order to correct the above indicated deficiencies.

The dependent claims 24-33 are rejected for fully incorporating the errors of their respective base claims by dependency. Thus, claims 24-33 are merely abstract idea and are being processed without any links to a practical result in the technology arts and without computer manipulation. They are not **tangibly embodied** in a manner so **as to be executable** as the only hardware is in an intended use statement.

***Remark***

7. It is understood that the mapping processor 30 of Eidson stores the device specific information in the database so there would be no need to detect the information and then send the information back to the mapping processor 30 (col.5, 65-col.6, line 7). Similarly to the claimed limitation, where the command is stored in a database for the controller. Therefore, there would be no need to detect the same command, which is the stored command and send the detected command to the controller. Based on the above mentioned Eidson anticipates the invention as claimed.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5, 13-16 and 24-27 as best understood by the examiner are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Eidson US Patent no. 5,923,557.

As to claims 1, 12 and 23, Eidson describes an interface to process control devices in which controllers communicate with process control devices (col.3, lines 59-col.4, line 4). Eidson discloses the claimed limitations “storing a command for the controller in a database, wherein the command is selected from a group of commands consisting of a write command that is configured to write a value of a real-time process control variable to the controller and read

Art Unit: 2162

command that is configured to read a value of a real time process control variable from the controller” as a means wherein the information in the database includes a set of device specific information for each of the process control devices detected by the mapping processor, where such device specific information for a particular process control device contains information such as the number of variables associated with the process control device, the triggering requirement, wherein in general, each variable associated with a process control device maps to a channel (col.4, lines 55-65). There is no need for Eidson to detect the stored command in the database, since the device dictionary 38 contains a set of predetermined device specific information that tailored in terms of the device oriented protocol for each process control device supported by the mapper. The limitation as claimed does not need to be detected the command since the command is specifically stored for the controller in the database. The only command that is detected is the command that is stored in the database. However, the device-specific information stored in the database 32 as disclosed by Eidson contains a set of device specific information (commands) that is detected by the mapping processor 30. Such mapper use as a protocol in helping to detect the commands stored in the database, col.4, lines and 55-58). Eidson discloses also the use of “sending the detected command to the controller” as a way of passing the information to the mapping processor which has stored into the database to the controllers (see items 60, 61 and 62; and col.6, lines 3-32). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the device specific information of Eidson to automatically detect the device specific information into the database to communicate to a specific controller.

Art Unit: 2162

As to claims 2, Eidson discloses the claimed limitation “verifying that the stored command is a valid command for the controller” as obtaining information such as the triggering requirement (col.5, lines 22-29).

As to claims 3, Eidson discloses the claimed limitations “sending a write command that is configured to write a first value of a first real-time process control variable to the controller” by writing the interface specific configuration information in the device oriented interface database with appropriate values (col.5, lines 15-20); and “sending a read command that is configured to write a first value of a first real-time process control variable to the controller responsive to sending the write command that is configured to write the first value of the first real time process control variable to the controller” as reading the device specific information from the device dictionary and writing it to appropriate entries in the device oriented interface database (col.5, lines 43-47).

As to claims 4, Eidson discloses the claimed limitations “receiving a response from the controller responsive to sending the retrieved command to the controller” (col.6, lines 1-7); and “updating a status of the retrieved command sent to the controller in a command table in the database to indicate whether the retrieved command sent to the controller succeeded or failed” as updating the dictionary server attached to field bus as new process control device become available or modified in term of device specific information (col.5, lines 61-64).

Art Unit: 2162

As to claims 5, Eidson discloses the claimed limitation “updating the current value associated with the first real time process control variable in a tag in the table in the database with the first real time process control variable read from the controller responsive to receiving the response from the controller” as updating the dictionary server attached to field bus as new process control device become available or modified in term of device specific information (col.5, lines 61-64).

As to claims 13-16:

Claims 13-16 are for system claims performing the methods of claims 2-5. They are similarly rejected.

As to claims 24-27

Eidson has computer program embedded in the computer can be used to performed Claims 24-27 are for computer readable medium containing instructions performed by the methods of claims 2-5. They are similarly rejected.

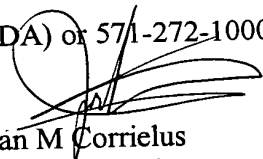
10. Claims 6-11, 17-22 and 28-33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 and 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jean M Corrielus  
Primary Examiner  
Art Unit 2162

July 7, 2006



Art Unit: 2162

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing  
below:

*Jeffrey A. Gaffin*

*Cottingham, John*